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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,022	07/03/2002	Francois Girard	0502-1003	4939

466 7590 10/19/2005

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EXAMINER
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BENENSON, BORIS

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 10/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/088,022		GIRARD, FRANCOIS	
	<b>Examiner</b>		<b>Art Unit</b>	
	Boris Benenson		2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 4-9 and 14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-7,9 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

***Detailed Actions***

1. Amendment received on 08/05/2005 is entered.  
Claim 4 is amended. New Claim 14 is entered.  
Claims 4-9 and 14 are pending in the Application.

***Response to the arguments***

2. Applicant argues that amendments to Claims have overcome previous rejection. Examiner agrees with such argument and for that reason new rejections are following.

***Claim Objections***

3. Claims 5-6 are objected to because of the following informalities: Claims are dependent on Claim 4, but neither Claim 4 nor Claims 5-6 disclose a limitation a cylindrical envelope, so a limitation the cylindrical envelope lacks antecedent basis. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 4 rejected under 35 U.S.C. 102(b) as being anticipated by Fussell (4,023,071). Fussell disclosed a

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Transient and Surge Protection Apparatus comprising at least two protection elements a varistor (Fig.3, Pos. 30) and a zener diode (40) which are arranged in parallel and have one of their common connection terminals connected to a protected line (L1 or L2) and the other common terminal connected to a common conductor (N) or the ground (Fig.2). Fussell did not discuss a physical nature of zener diodes and therefore did not disclose a well-known fact that zener diode characterized by having a reverse breakdown property, wherein a voltage drop across the zener diode remains approximately equal to a zener voltage. It is known that such a breakdown is reversible. It is also known that in case of an excessive power dissipation zener diode like any semiconductor device will have a second breakdown (irreversible) where the diode become shorted.<sup>1</sup>

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

Office action:

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<sup>1</sup> "Interestingly enough, when zener diodes fail due to excessive power dissipation, they usually fail *shorted* rather than open. A diode failed in this manner is easy to detect: it drops almost zero voltage when biased either way, like a piece of wire" (www.allaboutcircuits.com/vol\_3/chpt\_3/9 Page 3, 4th paragraph)

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fussell (4,023,071) in view of Vermij (4,703,299). Fussell disclosed a Transient and Surge Protection Apparatus comprising at least two protection elements a varistor (Fig.3, Pos. 30) and a zener diode (40) which are arranged in parallel and have one of their common connection terminals connected to a protected line (L1 or L2) and the other common terminal connected to a common conductor (N) or the ground (Fig.2). Fussell didn't disclose a type of housing and a shape of connecting terminals. Vermij teaches a High Current Interrupting Fuse with ARC Quenching Means. Vermij teaches, "high current interruption capacity fuses commonly have a fuse element electrically connected between two cylindrical end cap terminals fitted over the ends of a sand-filled cylindrical envelope" (Col.1, Lines 10-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the protection device of Fussell with teachings of Vermij and encapsulate the device into cylindrical

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envelope with end cap terminals, because such device will fit to widely available standard type fuse holder.

6. Claims 6-7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fussell (4,023,071) in view of Vermij (4,703,299) as applied to claim 4 above, and further in view of Girard (5,831,808) and Turolla et al. (4,646,037). Fussell in view of Vermij disclose all the elements of Claim 4, but don't disclose a varistor having shape of a tube and disposed around the Zener diode lightning arrester with a longitudinal axis of the tube merges with a longitudinal axis of the cylindrical envelope. Turolla et al. teach a Filter Contact and Its Use in Electric Connectors, wherein a varistor (Fig.1, Pos. 10) has the shape of a tube and an inner and outer surfaces of the varistor are respectively in contact with inner metal tube (11) and outer metal tube (1), which form electrodes of the varistor. Girard teaches a Lighting Arrester Device wherein a Zener diode (Fig. 2, Pos. 13) is located symmetrically inside a cylindrical housing (7) and a space inside the housing "is filled with solid resin (Col.5, Line 10). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Fussell in view of Vermij and use the tube shaped varistor of Turolla et al. and insert the Zener diode of Vermij

inside this tube shaped varistor, because it allow better utilize a space inside the envelope of Vermij.

***Allowable Subject Matter***

7. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**The following is an examiner's statement of reasons for allowance:**

8. Claim 8 is allowable because none of the prior art of record disclose a device for protection against voltage surges wherein a connection between one of metal rings and outer tube is ensured by welding spots that adapted to melt under effect of voltage surge to perform a function of a disconnecter in combination with the other claim limitations.

**Contact information**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Boris Benenson whose telephone number is (571) 272-2048. The examiner can normally be reached on M-F (8:20-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 ext 36. The fax phone number for the

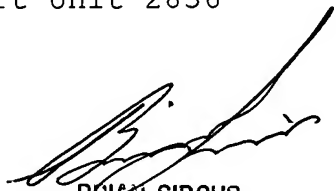
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organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Boris Benenson  
Examiner  
Art Unit 2836

B.B.



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